

Abstract of the Disclosure

The present invention provides a catheter positioning system which serves to control and stabilize a distal end of a catheter at a treatment site within a patient so that a medical procedure can be performed with accuracy. Generally, the positioning system operates by providing a deformable mechanical members at the distal end of the catheter which can be operated from the proximal end of the catheter to extend radially outward to engage surrounding tissue adjacent to treatment site. In one embodiment of the invention a flexible superstructure comprising the plurality of flexible veins extending longitudinally along the distal end of the catheter can be deformed to bow radially outward to engage surrounding tissue. The distal tip of the catheter joined to one of the veins was correspondingly displaced or rotated angularly as the veins bow outward. In another embodiment radially projecting fingers are joined to the distal end of the catheter, which remain retracted during navigation of the catheter to the treatment site then are extended outward to penetrate the tissue and secure the catheter at the treatment site upon being actuated from the proximal end of the catheter by a physician. Methods of positioning a catheter are also disclosed. The inventive device and method are particularly useful in catheter based procedures carried out in large body lumens or in cavities of body organs. In particular, the invention may be useful in delivering implants percutaneously through the left ventricle into the myocardium of the heart.